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INTERNATIONAL PUBLIC POLICY INSTITUTE

Crafting Growth: Exploring the emerging potential & challenges for Scotland's craft beer sector

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Making a difference to policy outcomes locally, nationally and globally

OCCASIONAL PAPER

The views expressed herein are those of the authors

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International Public Policy Institute (IPPI),

University of Strathclyde.

Acknowledgements

This white paper has emerged from research conducted following the award of a grant by the Scottish Universities Insight Institute (https://www.scottishinsight.ac.uk/). The project, titled 'Crafting Growth: Exploring emerging potential and challenges of extended collaboration for Scotland's craft beer sector', was awarded funding support as part of SUII's call 'Learning from other places', which focused on knowledge exchange between places (as well as between disciplines and between academics and non-academics) to improve policy and practice.

The project involved two knowledge exchange events taking place in March and May 2017, each welcoming over 40 academics, practitioners and industry support bodies from Scotland and 9 European countries. The workshops involved multiple interactive and hands-on sessions that aimed to identify key bottlenecks and growth challenges at both the individual firm level, and at the sectoral level. Following the events, an academics-only workshop also took place to identify impact outcomes of the two workshops and future research directions.

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By Juliette Wilson, Maria Karampela, Sarah Dodd (University of Strathclyde) and Mike Danson (Heriot-Watt University)

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Executive Summary

This White Paper reports on the findings of a Scottish Universities Insights Institute (SUII) funded project, which brought together leading European craft brewers, and academics studying the sector, from eight countries, led by a team from the University of Strathclyde and Heriot-Watt University. The aim of the project was to collectively explore barriers to growth, as well as development opportunities, for craft brewing at firm, sectoral, regional, national, and international levels.

The White Paper first sets out the six key areas of challenge which emerged from the study, namely: resourcing growth, marketing communications, market expansion, building skills, working with the value chain, and, crucially, legislation and support structures. Key recommendations to emerge from the workshop-driven study are discussed in detail in the report and are summarised below in bullet points. We explore and explain the Scottish policy context for craft brewing, highlighting the importance of this sector in terms of national economic strategy, most especially with regard to food and drink sectoral strategies, rural socio-economic development, tourism, and sustainable skills development. The White Paper makes the following recommendations:

- **Regulation, taxation and funding for capital investment:** Regulatory systems, taxation regimes, and both private and public funding sources could all better recognise and support the need for intensive capital investment at the brewery capacity expansion point.
- **Leveraging the value chain to educate customers:** Collaboration within the value chain is required to educate customers through, for example, beer tastings, beer and food pairings, and establishing breweries as tourist sites (brewery tours and tasting rooms). Social media plays a crucial role in promoting the brand story, identity, reputation and recognition, as well as in developing deep links with consumers.
- **Investing in resources and skills:** Investment in resources and, especially, skills are needed to optimise craft beer growth opportunities, with innovative and collaborative strategies demanded, and co-ordination at sectoral, regional, national and / or European level.
- **Universities and sharing research-driven sector knowledge:** Stronger and systematic links with universities are needed to enhance the creation, sharing and transfer of research-driven knowledge, in management and marketing, but also, vitally, in the development of indigenous hop varieties.
- **Leveraging the sector's co-operative ethos:** The co-operative ethos of the sector offers opportunities for sector-based local, regional, national, and European collaborations, in a wide variety of areas.

- **Building sustainable growth**: Brokering local and export relationships, building beer sommelier education systems, and creating opportunities for extensive peer-to-peer learning all offer opportunities to build sustainable sector growth.
- **Better communication with government**: Better communication with government and governance systems could facilitate enhanced regulatory systems to maximise the sector's potential.
- **Quality marking Scottish craft beer:** Sectoral mechanisms should ensure and accredit the quality of craft beer, including via quality standard "marks", training qualifications, and excellence awards.
- **Specific financial and knowledge support:** Assistance is sought for the internationalisation of craft breweries. A particular need was identified for information, knowledge, contacts, and funding to allow well-informed export market visits.

Growing Strong: Growth Challenges and Opportunities

Project Overview and Background

To facilitate the growth of the craft ale sector, it is necessary to understand craft brewers' aspirations, concerns, challenges and the barriers they face. Learning from other sectors and countries, informed by research and experience from across the continent, offers a path for the sector to achieve its potential. The "Crafting Growth" project was conceived as a vehicle to explore such matters, and facilitate the building of strong craft ale breweries – and achieve the multiple policy objectives which the sector has such tremendous potential to address.

This Paper is the outcome of a Scottish Universities Insights Institute (SUII) funded piece of research with a multi-disciplinary, international team of academics, craft beer practitioners, and industry bodies from Scotland, the rest of the UK, and eight European countries (Finland, France, Germany, Ireland, Italy, Norway, Spain, and Slovenia). Data was gathered through two whole-day action-research events.

(Map adapted from www.freepik.com)

All participating practitioners were prominent members of their respective craft beer clusters, with the majority being very involved in their local craft beer sectors. Therefore, they have in depth knowledge of a wide range of existing practices in their clusters that may (or, indeed, may not) have been efficient, or actively embraced by other brewers.

The academic experts involved were from a variety of disciplines from eight universities. All were involved in research with artisanal food and drink businesses, and the majority had specifically explored various aspects relating to the start-up and growth of craft beer firms. In addition, there were representatives from key support bodies in the UK and Europe, including brewers' associations and business support bodies from the food and drink sector.

The aim of the 'Crafting Growth' project was to provide a platform for Scottish brewers and relevant industry bodies to work alongside their counterparts from across Europe to:

- identify and scope key growth areas in the craft beer sector where creative future developments are required
- apply international academic expertise in small business growth that has been successfully used to address issues in other countries and industries
- facilitate sharing of knowledge and practice, to inform and influence SME and sectoral policy and support

Growth Challenges

As with many SMEs, including those striving to achieve growth, there is an overarching challenge of working with limited resources. This takes a variety of forms such as time, capital for investment, skilled workforce, etc.

I. Resourcing Growth

Finance is key to realising the sector's growth potential. Finance is needed both for expansion but also for the challenge of day-to-day cash flow and managing a business with variations in demand. This is particularly an issue when strongly aligned with tourism. This is a strong limit on growth and necessitates balancing of funding priorities.

Capital costs are significant in craft brewing and it is particularly difficult to expand from a micro-brewery level to a small brewery level as it necessitates a major investment in equipment, facilities, etc. Previous work[1] has confirmed how this expansion is significant at the threshold margins of the 'Small Breweries Relief Scheme'[2].

Key players in providing finance are banks and private investors but also funding agencies, support agencies, and the government. This challenge is seen as a sectoral-level issue, as well as a challenge for individual SME brewers.

Both the most valued economic capital (for larger brewers), and the aspirations of the newer, smaller brewer, centre around two linked phenomena. Firstly, business targets are traditionally articulated in terms of output (e.g. hectolitres of beer produced per year), rather than in monetary sales figures. Secondly, excellence and scale in in-house production, packaging and sales/tasting facilities are seen to be the main priorities, with many brewers focusing on expansion – planned or recent - of their manufacturing and packaging plant.

There is a recognition of the importance of intangible economic assets, such as the brewers' intellectual property, often codified and manifested through specific recipes and brands. There are also resourcing issues within the supply chain related to accessing ingredients and instabilities and uncertainties in other supplies for reasons outwith brewers' control.

These concerns apply at an individual brewer level, but there are crucial factors that impact at the sectoral level including the unwillingness of banks to fund and a lack of other funding.

II. Marketing Communications

Brewers recognise they operate in an increasingly competitive industry. Individual brewers therefore need to identify their own unique selling points (USPs) and how best to expose them in the marketplace. It is also necessary for the sector to continue building on its collaborative ethos, to support and grow the sector as a whole, through maximising opportunities for synergies, within the craft beer movement, and beyond.

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[1] 'Microbrewing and entrepreneurship: the origins, development and integration of real ale breweries in Britain, M. Danson, L. Galloway, I. Cabras and C. Beatty, *International Journal of Entrepreneurship and Innovation*, 16, 2, 2015.

[2] Paragraph 8: https://www.gov.uk/government/publications/excise-notice-226-beer-duty/excise-notice-226-beer-duty--2#small-brewery-beer

Firstly, there is a real need to educate consumers about craft beer through marketing and brand building. Many consumers do not understand the product and are used to more mass-market beers. To facilitate marketing of craft beers, consumers need to understand and be educated in notions such of authenticity and craft.

Brewers need market intelligence and, reciprocally, the market needs to understand the beer and the brewery; these are key challenges to realising a growth in the market.

Craft brewers face barriers from low budgets, lack of time and staff resources for sales and marketing activities of the business. Partly this is because most enterprises appear to prioritise the production-end of their business, and dedicate themselves to brewing itself, rather than trying to boost demand and educate the end consumers.

III. Market Expansion

Businesses often know that there is potential demand and where their key target markets might be, but they need the tools to access these. They also need help in understanding how their brands will translate into new international markets.

Challenges are again seen around lack of time, cash flow, low levels of production meaning economies of scale are not realised, limited control over routes to market, and also lack of knowledge of potential partners and the markets themselves.

Key players in internationalisation are distributors, support agencies and government.

This is seen as an individual-level issue, but again one that could really be supported by funding bodies, support agencies and government.

IV. Building Skills

This is a very broad area. Production is considered by the brewers to be the key focus of their business and is what animates them. They have skills around brewing, but there are many skill deficiencies in the industry, especially those related to markets and consumers. Lack of available skilled labour is a common issue with both external and internal drivers.

An imperative for all brewers therefore is to be able to access and develop skilled staff, not only in brewing *per se*, but also in commercial skills, including marketing, logistics, accounting and sales (management) to have the capacity to deliver on growth plans. With some of these skills in short supply within the sector, many are concerned of the dangers of training millennials who then move on to other forms of employment. This is not a concern unique to craft brewing and, along with individual brewers wanting to create “sticky” employees dedicated to their own enterprise, implies a strong need for sector-wide initiatives and external customised support for craft brewers to facilitate development.

The importance of skills, knowledge and experience is very evident within the sector as a whole, with all groups highlighting the need for skills development across many and diverse levels, as well as issues around recruiting and retaining skilled employees.

V. Working with the Value Chain

Both horizontal and vertical value chain relationships are identified as being of significance within the sector, with different strategic uses of these various forms of relationships. For example, horizontal links with other brewers are important, facilitated through the vehicle of co-lab brews[3]. However, these are perhaps not perceived to be as crucial as other horizontal relations with other craft producers (e.g. artisanal food). Vertical relationships with distribution partners are essential for reaching the market, and form a vital relational resource comprising pubs, bars, the local tourist industry, exporters, and distributors.

Many brewers feel powerless in their current distribution channels and perceive a need for new distribution channels and outlets to help re-balance power and access new markets.

Forward linkages are especially important. How brewers access their markets can be problematic as the retail side of the market is often highly controlled with difficulties in getting beers to the end consumer because of tied public houses, high levels of minimal orders from supermarkets, and other restrictions on trade. For individual brewers, there may be insurmountable obstacles to delivering their unique products to market in sufficient volume to support production expansion.

VI. Legislation and Support Structures

Legislation and regulations are a major area of concern for all breweries as they affect how brewers sell, price, brew and operate.

The regulatory environment dictates that brewers must devote resources to addressing areas other than the core of their business, often to their frustration.

However, there are significant opportunities of scope to try to deal with this at a sectoral – rather than individual company - level. In particular collaboration and presenting a unified “industry voice” might help brewers enormously in positively impacting on legislation and support structure to enable the industry to achieve its potential.

[3] “Co-lab” brews are a craft brewing tradition, when (master-) brewers from one brewery will visit another, often in person, to create a new, collaborative beer together. Although technically this involves working closely with the “competition”, the innovative and co-branded beers which result are often highly prized by craft beer aficionados. Additionally, much sharing of skills, knowledge, recipes and ingredients takes place during the co-lab brewing process.

Opportunities

For each of the areas of challenge identified, the workshop events also focused on generating collectively a set of responses to these, articulated in the form of opportunities. These are presented below.

I. Resourcing Growth via Collaboration

Driving market demand will allow expansion in production facilities and higher sales to help with cash flow issues, and create greater capacity to address other opportunities for the business.

Collaboration underpins almost all elements of craft beer production, development and distribution. Indeed, this ethos is so fundamental and integral to the sector, it is taken for granted, and thus can appear rather overlooked when discussion turns to specific issues. However, it should never be forgotten that collaboration is firmly embedded in the DNA of the craft brewing movement. Collaborative activities include co-brewing, marketing and distribution. There are also examples of innovation trickling down to other brewers through collaborative mentoring. Collaboration is essentially important with regard to resources, ways of sharing and the types of resources that can be shared.

Brewers would also welcome support around the development of indigenous raw ingredients, most particularly hops. There is a growing shortage of hops globally, and considerable difficulties in sourcing, especially for specialist hops (usually imported) as the sector continues to grow, and as larger competitors from mainstream brewing attempt to mimic craft recipes. Two system-level solutions are proposed to tackle this problem. The first is university-driven research around the development of indigenous hops suitable for specific local environments. The second is the establishment of a craft brewers' hop-buying co-operative, which would have the additional benefit of allowing members to develop further expertise on ingredient quality, as well as nurturing collaboration between brewers.

II. Marketing Communications

Brewers voice opinions around the need and potential to educate potential consumers and get them to better understand craft products. Appreciation and buy-in for their products means word of mouth is an effective marketing approach.

There is a key role for social media in this process to help promote the brand story, brand personality, drive brand recognition and develop relationships with consumers. Connections with the market are often mediated through social media – which is also a key route for

building reputation and legitimacy (symbolic capital) into these market relationships. Emotional cues about the brewer's brand will help drive the market.

There is a need for brewers to recognise that they have to resource this investment with a marketing budget to support marketing actions. Engagement and exposure are critical. Both the message and the media are crucial for building customer relationships, with brewers recognising it is "not just what you want to say, but the best way to say it". Opportunities exist to build beer-loving communities, for example through music festivals, which have emerged as a key way of doing this, as cited by numerous organisations. Indeed, for one Scottish craft brewery, Black Metal Brewery, international "dark" rock music festivals form a major element in their distribution systems, with the "metalhead" brewers returning year on year to build its community.

More widely, reputation is mainly perceived to be achieved through the development and communication of clear, consistent and authentic narratives and stories. These are often rooted in the heritage and legacy of the locality, as well as the environmental sustenance that the breweries also bring to these localities. Social media are acknowledged to be an important vehicle for building and communicating symbolic capital within the craft beer-drinking world. The intersection between characteristics as 'organic', 'sustainable', 'provenance', 'quality', 'natural', 'local', and 'heritage' are central to any narrative.

Customer education was highlighted as a priority to increase the craft beer's market share. Related to this is recognition of the need to encourage switching behaviour from substitute products, such as wine, and this necessitates education around the concepts of drinking beer in restaurants, pairing it with food, and sharing bottles of beer. This requires guiding consumers through a different journey with the product, than one to which they are accustomed. Inter-generational differences amongst consumers suggests a need for education to build markets. Market segmentation is partly age-based with middle aged drinkers believed to have well-entrenched drinking habits, whereas younger drinkers offer different opportunities. Craft beer for the young and trendy is better positioned in terms of 'having fun', with new citrus hop beers being more palatable for instance. Collectively building consumers' mind-set to "drink less and drink better" captures this approach and segues with the Scotland Food and Drink ambition to pursue high-quality markets.

III. Market Expansion

Educating the consumers, as an essential precursor to increasing sales, is seen as a collective responsibility of the craft beer sector. However, the actual selling of craft beer into new markets is perceived to be better handled by the individual brewer, marketing around their own specific point of difference, unique qualities and characteristics.

For some microbreweries, exporting can be a market-building priority. Internationalisation strategies differ with some brewers encouraging joint exporting of mixed pallets from several craft breweries, whereas others feel this is a dangerous route to market that would dilute their own plans and unique brand awareness.

Events and festivals can be an effective collective target for building markets in the opinion of some, while other brewers argue this may be better strategically co-organised with other local craft producers (including other craft food and drink firms), rather than with other beer producers, as their product might become "lost". Innovative channels to market are being pursued: there are examples of brewers securing almost all their distribution through music festivals, being instantly global with the scope to reach international markets.

IV. Building Skills

Consistent with triple helix and cluster best practice, links with universities to help enhance the sharing and transfer of academic knowledge in management, strategy and policy areas, and – particularly - in terms of research and development into, for example, hops, would enhance the competitiveness of Scottish craft brewers locally, nationally and collectively.

Brewers need support to both develop skills and help in accessing skills that their businesses lack but which are available in the marketplace; these are particularly around promoting their products, creating brand presence and generating brand story-telling. Strong brewing skills are a requirement across the sector, to ensure the premium quality of craft beer and that the sector's collective reputation is also built and protected. Beer sommelier education is also beneficial: to educate both consumers and brewery staff about beer and food pairings. However, beer and brewing skills *per se* are not the main knowledge priority; expertise in marketing, organisational management, and the digital world are seen as more essential. And training and retaining millennials are considered as a significant issue.

Availability of technically skilled staff and apprentices could be supported by Government and support agencies, although time to complete training is also an issue suggesting sector-wide solutions may be appropriate. This is also an area where the industry itself could take greater initiative and responsibility, working closely with the education sector, support agencies, and government bodies.

A decentralised, locally-embedded, and geographically widespread craft brewing sector is consistent with a diverse Europe of many cultures, natural and human heritages. Learning and sharing intelligence across the continent to promote appropriate skill and talent acquisition supports European concepts and strategies of smart specialisation, sustainable and balanced territorial development.

V. Working with the Value Chain

Improved and more effective distribution channels are essential to building and satisfying demand and expanding production capacity. Establishing and enhancing relationships with importers, online and physical distributors are all key issues to increase capacity for wider distribution in the right places. Key players include brewers, distributors, retail outlets and front of house staff. Cross-sector co-operation would clearly help increase customer awareness and knowledge. This could be enabled by support agencies in development and tourism, government, and sectoral organisations.

There is an interesting distinction between local embeddedness – brewers serving and rooted in the locality - and expansion networks where enterprises look to move beyond their current home marketplace. In local terms, rich relationships and engagement with the craft beer community are especially valued, as well as links with the tourism sector and tourists. Crucially in nurturing further such development, links and co-operation with other local players in the food and drink industry are highlighted as of significance, including restaurants, food and drink festivals and events, and tourism.

For others, rich personal ties with export contacts are perceived as a key social capital endowment, and a wish expressed for more of these collaborations, often with other international brewers in target countries, focused particularly on supply chain partnerships. Personal connections and serendipity play a role, too, in driving exports through social capital.

By contrast, some expansion networks, particularly export connections, are considered to be based on weaker ties (in social terms), but still of significant potential value in supporting internationalisation. Such connections include existing brewery and export associations, with a desire for a pan-European craft brewery association. Some, however, have questioned whether there are already too many industry associations and not enough time to participate or benefit from these. Nevertheless, given the time and skill pressures on individual brewers that does not gainsay the potential gains from a European institutional framework for the sector.

Linking beer to food, and to the experience of eating and drinking, is also expressed in another route to building markets – collaborations with local restaurants. Premium beer, in particular, can offer a sophisticated opportunity for food and drink pairing events and tastings. Such approaches require brewers to leverage their local social capital and build markets through relationships with related artisanal entrepreneurs. Distributors are also perceived as potential brokers who could instigate collaborations with the restaurant trade. Some brewers, however, prefer to maintain control and ownership of this type of vertical integration, through (local) market growth plans based around opening their own restaurant, and / or tasting

room[4]. Brewery visits, and the building of an exhibition, are approaches to vertical integration in building markets, and here – as in related projects – local tourist agencies can be promising collaborators.

An additional benefit of local collaboration, most particularly for raw materials, is that brewers can exploit opportunities to make use of what would otherwise be waste products, such as leftover bread from local bakers (Jaw Brew), or distillery grist (Islay Ales). This type of collaboration has the further benefit of developing local circular economy systems, and thereby promoting wider sustainability. Such brewers also often then train their peers, from other craft breweries to make use of such locally available "waste" ingredients, spreading these opportunities for best practice and environmental sustainability.

As well as local relationship ties providing a strong resource for growing markets, locality is also a vehicle for demonstrating and grounding the provenance of place. Although, perhaps paradoxically, most craft brewers rely largely on raw ingredients from outwith their locale, a sense of provenance, or *terroir*, is developed through the re-invention of traditional recipes, the use of some local flavours, and via the unique selling point of their local place. This offers a point of differentiation in a crowded market. Similarly, by offering different beers to reflect seasonality, brewers can build their market through these local routes, as well as through alternatives such as monthly beer subscriptions.

In addition to writing local place into their stories, brewers emphasize the need to build markets through communicating their reputation and legitimacy (symbolic capital) around the taste and quality of their beer. This is facilitated by the supporting narrative of the smaller artisanal brewer as a 'Robin Hood', or 'David versus Goliath' figure, enhanced further by their personal connection with their customers and the local community.

Key to craft beer is constant innovation to realise potential. Brewers are driven by a fascination with what they are doing, playing with flavours, playing with brews. New products are continuously being developed and introduced, helping them stand out against the more traditional beer markets. This constant innovation can seem counter-intuitive to those outside the industry, but is a crucial point of difference.

Innovation is not just around beer and flavours. There are opportunities in merchandising such as canning and other new formats which have improved shelf life and transferability. These strategies increase export opportunities, diversification and other added-value activities (e.g. transport).

Reputation is largely seen to be driven through authenticity, and can be embodied in awards, particularly at national and international level. There are strong arguments for sectoral

[4] 'From microbrewery to food and drink empire: 'The time and the place, and a lot of good luck'?', M. Danson C. Reilly, L. Galloway and C Beatty, *International Journal of Entrepreneurship and Innovation*, 16, 1, 55-59, 2015.

mechanisms to ensure and accredit the quality of craft beer, articulating and underwriting the meaning of craft in the brewing context; this would support further the quality and provenance underpinnings of the craft beer sector as a whole.

VI. Legislation and Support Structures

By consensus, craft brewers want increased sectoral positioning, with a strong sectoral voice and discussion of the opportunities this could bring. Craft beer would benefit from being considered at all levels of government and governance: UK and EU, as well as at local and devolved levels.

This means there is a need for a consistent message on why and how this sector is important. Craft breweries are often embedded in rural or peripheral communities or in urban places that have undergone regeneration. Breweries are important to local, regional and national economies and this contribution could be articulated better.

The most prevalent and unanimous vision for building supportive infrastructure systems centre around a desire for standards of quality, accreditation of craft beer, measurement marks for quality, or an official craft mark. Proposals vary as to who should be responsible for such an initiative, including a proposed NGO to regulate quality standards and to provide incentives for breweries to become active members. Other potential quality accreditation bodies include a European level craft brewing association, and national public-sector involvement. Beer rankings established through a beer association or institute could provide an additional mechanism for ensuring and rewarding quality. Pilot schemes are recommended as a sensible first step in this direction. Encouraging support for a European craft beer institute is proposed, whether led by the public sector or by the brewing community. In general, though, certification on national and European level, and quality accreditation, are both widely sought. Such initiatives will now be complicated by the exit of the UK, including Scotland, from the EU.

Access to support, including financial support, would also be welcomed to facilitate (international) market visits, and professional recruitment. Tax incentives could be used to support the sector, as is the case in some European jurisdictions.

Brewers would welcome intelligence focused on policy and regulation in their sector from established support bodies. There is considerable divergence across Europe – and sometimes within countries - in terms of the support for, licensing, regulation and taxation of artisanal brewing, and the time is right for a review of this European regulatory environment.

Another proposed form of peer support is the establishment of a project to develop networks of local craft food and drink suppliers, widening perspectives, and building collaborations.

Models and examples of successful horizontal and vertical diversification would also be welcomed.

In addition to research and knowledge transfer around hops, it is also felt that systemic support could be provided through studies and greater communication into the (positive) socio-economic impacts of craft beer consumption and production. Examples of such additionalities generated by the sector include the employment impact on local communities, and the comparative positive effects of craft beer on health and well-being (compared to other modes of drinking, and less pure alcoholic alternatives). Similarly, the potential impact of craft beer and the craft beer sector on rural development, in particular, could be better recognised and integrated more widely into rural development policy and practice.

Summary of Challenges and Opportunities / Stronger and systematic links with universities is needed		
Key Growth Level	***Challenges and Barriers***	***Opportunities and Recommendations***
Resourcing Growth	Cash flow problems due to variations in demand and payment regimes	Driving market demand is the key to financing production facilities investment, and alleviating cash flow issues
	Significant ("stepped") growth demands intensive capital investment in new productive capacity	Regulatory systems, taxation regimes, and both private and public funding sources could all better recognise and support the need for intensive capital investment at the brewery capacity expansion point
	Accessing raw materials, especially hops, is ever more fraught and costly	Researching indigenous hops varieties, and forming (hop) buying co-operatives, would potentially address this problem
Marketing Communications	Balancing the development of individual brewery USP with supporting the growth of the sector as a whole	Social media plays a crucial role in promoting the brand story, identity, reputation and recognition, also developing deep links with consumers
	Very strong need identified to "educate customers" in understanding craft beer	Collaboration within the value chain is required to educate customers through, for example, beer tastings, beer and food pairings, and establishing breweries as tourist sites (brewery tours and tasting rooms)
	Lack of skills, resources and priorities in building strong marketing communications	Investment in resources and skills are needed to optimise this opportunity
Market Expansion	Strategies, resources and skills needed to expand markets	Investment in resources and skills are needed to optimise this opportunity, with innovative and collaborative strategies demanded
	International market expansion requires special attention, and the development of export relationships and knowledge	Investment in resources and skills are needed to optimise this opportunity. This is best managed at sectoral, regional, national or European level
Building Skills	Difficulties in recruiting, training and retaining millennials	Investment in resources and skills are needed to optimise this opportunity. This is best managed at sectoral, regional, national or European level
	Severe need for skills development in management, exporting and marketing	Investment in resources and skills are needed to optimise this opportunity. This is best managed at sectoral, regional, national or European level
	Need for new scientific knowledge, in brewery management but especially into hops and other raw materials	Stronger and systematic links with Universities to enhance the creation, sharing and transfer of research-driven knowledge

Working with the Value Chain	Collaborative arrangements with other craft brewers underpin the sector	The co-operative ethos of the craft brewing sector offers special opportunities for sector-based local, regional, national and European collaborations, in a wide variety of areas
	Vertical distribution systems are essential for reaching local and international markets, but can be difficult to manage and build	Brokering local and export relationships, building beer sommelier education systems, and creating opportunities for extensive peer-to-peer learning all offer opportunities for building sustainable sector growth
	Maintaining beer quality is essential to protecting the reputation of this nascent sector	Sectoral mechanisms can ensure and accredit the quality of craft beer, including through quality standard "marks", as well as excellence awards
Legislation and Support Structures	The sector is very regulated, and this can cause bureaucracy, and other barriers to growth	Better communication with government and governance systems would facilitate enhanced regulatory systems maximising the sector's potential
	Support structures have the potential to enhance growth, but are not yet fully optimised.	Sectoral mechanisms can ensure and accredit the quality of craft beer, including through quality standard "marks", training qualifications, and excellence awards
	Specific (state) support for exporting was sought	Financial and knowledge support would be most welcome to allow well-informed market visits

Craft Brewers and the Scottish Policy Context

Craft brewers are, as with many food and drink SMEs, subject to local and regional variations deriving from the water, ingredients, recipes, landscape and other elements, complemented by natural and built heritage. However, craft brewers also operate within a different national landscape: the policy landscape. In the case of Scotland, brewers make a significant contribution to several key policy areas: economic, rural, skills, food and drink, and tourism.

Scottish Economic Strategy

The Scottish Government aims to make Scotland 'a more successful country, with opportunities for all, through growing our economy in a sustainable (steady and long-enduring) way'. This is to be achieved through an economic strategy based around increasing competitiveness and tackling inequality. There are four key priorities for supporting sustainable economic growth in Scotland covering:

- investing in people and infrastructure
- fostering a culture of innovation, entrepreneurship and research and development
- stimulating inclusive growth and creating opportunity through a fair and inclusive jobs market
- promoting Scotland's international trade, investment, influence and networks

The Government has a particular focus on improving the performance of the Food & Drink sector. In partnership with industry and support agencies it aims to increase turnover to £30 billion by 2030 as set out in Ambition 2030[5]. Against each of the priorities identified above there is a contribution to be made by SME and start-up businesses in Scotland's Food & Drink industry, and craft ale producers have a significant role to play in delivering all of the GES's four priority areas.

Scotland's craft brewing sector and brewers are investing in their people and infrastructure. The very existence and development of the craft beer sector is a case study in open innovation and the success of local entrepreneurship. Many craft brewers are located across the country, often in rural and urban areas in need of development and regeneration, and they use and develop local suppliers, fostering the creation of employment opportunities throughout Scotland and across their supply chains. Backward linkages are being forged into Scotland's farming and primary producers and forward into international sales with exports to tourists and overseas markets. In addition, breweries are increasingly being seen as tourist destinations in their own right akin to the development of whisky distilleries as tourist destinations. Exploring how the craft beer sector delivers against the government's four

[5] http://www.foodanddrink.scot/media/78129/strategy-brochure-smaller-size.pdf

national priorities and how it can deliver yet more is important if the full benefits of this expansion of a sustainable indigenous sector are to be realised.

Matching the Craft Beer Sector to Scotland's Economic Development Strategies	
The Enterprise and Skills Review	This is a highly skilled sector where STEM and business skills are applied and interact to good effect
The National Performance Framework on how 'Scotland Performs'	This sector exemplifies how progress, collaboration, and enterprise can build a sustainable economy
Government consultations on the economy with partners and stakeholders to determine how best to achieve the strategic aims	This sector displays a range of issues, challenges and innovative practices which can act as a dynamic model for the wider economy

Delivering success needs support and recognition of the potential, challenges and requirements of the craft ale sector. This White Paper report highlights how craft brewing can help Scotland meet its aspirations and targets to improve Scotland's sustainable economic performance.

Rural development

Scotland's rural development programme is designed to build on the strengths of rural Scotland and it particularly highlights the key growth sectors of Tourism and Food & Drink; resourceful and resilient businesses and communities; natural capital - including large quantities of good quality water; cultural, historical and natural capital and assets; and, research institutes which offer good provision for training and learning. However, in many areas outwith the Central Belt there is a narrow economic base and lack of growth opportunities, with particular issues of access to finance for rural businesses, low wages, and problems of co-ordination across sectors and agencies. There are clear opportunities to build on 'Scotland the brand' through further strengthening the performance of Scotland's growth sectors; and such interventions should create and maintain vibrant rural communities by utilising Scotland's natural environment and heritage to increase employment opportunities and improve rural and national economic growth. Specific strategies are needed to better integrate training/skills across land-based sectors and tourism, to target support for knowledge transfer with stronger linkages to research and technology, and to support greater collaboration across sectors for added value.

These economic and environmental dimensions underpinning the development of rural Scotland create the context and rationale for assessing the role for the craft beer sector to contribute to sustainable growth across the country. Microbreweries are characteristically

embedded into the local economy and offer the potential to realise many of the benefits of the rural development programme. Critically there is an identified need for different and varied interests to join up their thinking, understanding, cooperation and support to achieve these aspirations.

Importance and targets of Scotland's Food and Drink sector

Food and Drink is embedded into the national economic strategy as one of Scotland's key sectors. The infrastructure to support this focuses around Scotland Food & Drink Partnership which has a vision for 2030 that farming, fishing, food and drink is Scotland's most valuable industry. That will be achieved by being recognised globally as a model of collaboration and a world leader in responsible, profitable growth. Critical for the craft beer sector is "exploiting premium markets both in the UK and internationally, making our supply chain more effective, encouraging collaboration through communication and striving to improve the high level of skills within the food and drink industry has never been more important"[6].

Following significant growth in recent years, with turnover up by 44% and exports by 56% since 2007, the ambition for 2030 is to accelerate that expansion to double the value of the industry to £30bn by 2030 through growing home and international markets, developing the sector's capabilities (people and skills, supply chain and innovation) and focusing on the 'behaviours' ('responsible, streamlined and collaborative'). These key words define much of the national economic and skills strategies and underpin the plans for rural development. Integral to the approach, the related export strategy for food and drink has identified key markets that offer the greatest opportunities. Craft beers and ales are highlighted as significant in the supply chains and linkages across the industry, and as having a key role to play in achieving the targets for growth and value added for Scotland's food and drink industry.

Tourism and hospitality

Beyond the passive support of Scottish food and drink by tourists, Visit Scotland actively highlights the craft beer sector through its website with reference to brewery tours, pubs, beer festivals, locality-based real ale tours and other events[7]. The opportunity is taken to make explicit links to Scotland's other national drinks (whisky and boutique gin, especially), traditional Scottish food, and to restaurants through the themed '2015- Year of Food and Drink.' These are all a means of adding value, strengthening the supply chain and generating synergies across and between sectors.

[6] http://www.scotlandfoodanddrink.org/news/article-info/5752/scottish-craft-breweries-develop-growing-appetite-for-export-and-home-markets.aspx
[7] https://www.visitscotland.com/see-do/food-drink/breweries-craft-beer/

Skills development

Skills development in Scotland for all sectors and areas is supported by Skills Development Scotland (SDS) and it leads on building a modern, innovative and prosperous Scottish economy. Complementing the economic strategy, fair work practices and a diverse workforce are integral to SDS's, and indeed, the Scottish Government's strategic interventions. As is usual in Scottish policy interventions, partnership working, across agencies, and in close conjunction with industry, is key to skills development design and delivery. Such partnerships best ensure that employers and workers can access skills and skill development opportunities, so that each can achieve their full potential. Recommended skills development initiatives - successfully implemented by SDS in other sectors - include the provision of careers advice and guidance, tailored skills advice, and funding for workforce development. Together these activities and services could and should be used to address labour and skills gaps across the Scottish craft beer sector.

The craft beer / ale sector, which has a demand for a range of skills and expertise to be available to small businesses and communities, needs to be recognised and its requirements articulated to be able to access and benefit from this provision and resource.

Conclusions

Craft breweries have become established as important contributors to Scotland's local and national economies. Lessons from elsewhere suggest the sector can continue to add value with further growth in jobs, incomes, exports and enterprise complementing synergies with other activities. Together these promise to support moves to achieving the strategic targets for food and drink, tourism and the related elements of Scotland's evolving circular economy.

Working with representative entrepreneurs from the sector has generated recommendations for craft ale breweries individually and collectively, for business development and skills agencies, and for government and other economic partners. These recommendations are feasible, realistic and consistent with fulfilling the strategic objectives of sustainable and inclusive growth.

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